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AUTHOR	Huttenlock, Terry L.; And Others
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ABSTRACT

This manual was written as part of a study entitled "Studying the Cost and Value of Library Services," conducted from fall 1993 through spring 1995. The goal of the study was to address the problem of developing models and methods for studying the cost and value of library and information services in a way that can be pragmatically generalized and applied by services wishing to conduct similar studies; to provide libraries with information that will aid in the justification, evaluation, and decision making concerning library services. A brief account of the development process and the structure of the taxonomy is provided here. The objective is to provide detailed explanation with examples for every code in the taxonomy, so that this information may aid in: future encoding of user responses to questions related to value; evaluations of library and information service where user interviews are a part of evaluation; or in modification of the taxonomy. In the process, the manual provides pragmatic rationale for decisions in applications of the taxonomy, and reveals the details of the research's rationale in development and testing of the derived taxonomy. The manual is organized into two parts. Part 1 is intended as a general framework: it contains a summary of the approach to development of the taxonomy, describes its structure and attributes, presents the taxonomy in two exhibits, and elaborates on the nature of major classes and subclasses. Part 2 is the main and "working" part of the manual. For each of the 90 specific categories it provides a rule about encoding and gives examples from users in research interviews. Also provided are general rules for encoding, and a concluding section. (MAS)

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Derived Taxonomy of Value in Using Library and Information Services: A manual for encoding of responses

by

Terry L. Huttenlock
Patricia H. Dawson
Tefko Saracevic
Paul B. Kantor

Alexandria Project Laboratory
School of Communication, Information and Library Studies
Rutgers, the State University of New Jersey
New Brunswick, NJ

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Preface:

Context of the study

This *Manual* is written as part of a large study entitled *Studying the cost and value of library services*, sponsored by the Council of Library Resources and the School of Communication, Information and Library Studies (SCILS), Rutgers University. The study was conducted from Fall 1993 till Spring 1995 within the Alexandria Project Laboratory (APLab) of SCILS, with Paul B. Kantor as Principal Investigator and Tefko Saracevic as Co-principal.

The goal of the study was to address the problem of developing models and methods for studying the cost and value of library and information services in a way that can be pragmatically generalized and applied by services wishing to conduct similar studies. In other words, the goal of the study was to provide libraries and information systems in general, and those oriented toward research, such as large research libraries, in particular, with methods for gathering information on cost and value of their services - information that will aid in justification, evaluation, and decision making. The objectives were to:

1. Develop and test a taxonomy of value of library and information services based on user assessment.
2. Determine costs associated with specific services.
3. Develop methods for combining and correlating cost and value data.
4. Provide detailed descriptions and manuals that will allow for replication of these types of studies.

The project is reported in great detail in the *Final report* (Kantor, Saracevic, & D'Esposito-Wachtmann, 1995). A number of other papers have been submitted for publication or are in preparation (Kantor & Saracevic, In press, a & b; Abels, Kantor & Saracevic, In press 1996). Two papers are directly related to this *Manual:* a progress report on the study, which was presented at a conference (Kantor & Saracevic, 1995), and a journal article which reports the value part of the study in greater detail (Saracevic & Kantor, In press).

The first objective of the study resulted in a Derived Taxonomy of Value in Using Library and Information Services, as shown in Exhibit 1. in this *Manual.* Development and other details of the Derived Taxonomy are reported in the *Final report,* and the two papers cited above. Thus, only a brief account of the development process and the structure of the Taxonomy is provided in Part 1.

As can be seen from our fourth objective, our intention was also to provide tools that can be used in practical applications or scholarly replication and extension of the results of the study. This particularly includes application of the Derived Taxonomy for study of user-assessed value in library and information services, or for evaluation of such services. This *Manual* is a result of trying to provide tools for generalization and practical application.

The *Manual* goes along with the Derived Taxonomy. The objective is to provide detailed explanation with examples for every code in the Taxonomy, so that this information may aid in: future encoding of user responses to questions related to value; evaluations of library and information service where user interviews are a part of evaluation; or in modification of the Taxonomy. In the process the *Manual* provides pragmatic rationale for decisions in applications of the Taxonomy, and moreover reveals the details of our own rationale in development and testing of the Derived Taxonomy.

Each code in Part 2. represents a specific category; it is accompanied by a rule for application and examples of user utterances that assigned them to the code. All the examples are direct quotes from users. They are interesting in themselves, to demonstrate the range of responses and vocabulary which may be obtained from users, as well as to show the potential of this or a modified Taxonomy in practical applications and evaluation. Interviews of users are a source of rich material.

The *Manual* is organized in two parts. Part 1. is intended as a general framework: it contains a summary of the approach to development of the Taxonomy, describes the structure and attributes of the Taxonomy, presents the Taxonomy in two exhibits, and elaborates on the nature of major classes and subclasses. Part 2. is the main and "working" part of the *Manual*. For each of the 90 specific categories it provides a rule about encoding and gives examples from users in our interviews. Also provided are general rules for encoding, and a concluding section.

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Acknowledgements

As mentioned, this manual came from a larger study, with Paul Kantor as principal investigator and Tefko Saracevic as co-principal. The study became a reality because of the hard work, ideas, and cooperation of many colleagues. Joann D'Esposito-Wachtmann served as Project Manager. She also conducted the focus group interviews and played a large role in the definition, testing, and application of the successive instruments. Michael Wilk developed the Empirical Taxonomy. Dong Li was responsible for analyses, and Alan Zhao developed programs to support the analysis of transcribed texts. Terry Huttenlock and Pat Dawson coded the open-ended responses according to the Derived Taxonomy and developed Part 2. of this *Manual,* and Kwong Bor Ng developed the analytical programs to asses the coding.

The project would not have been possible without the generous cooperation of the five participating libraries. Our thanks to Elaine Sloan and Carol Mandel at Columbia University; Frank Polach, Marianne Gaunt, Margie Epple and Emily Fabiano at Rutgers University; Carlton Rochell, Nancy Kranich, Lucinda Covert-Vail, Nancy Friedland and Marlayna Gates at New York University; Donald Koepp, Nancy Klath, Mary Chaikin, Patty Gaspari-Bridges, David Goodman, and Janice Powell at Princeton University; Joanne Harrar and Danuta Nitecki at University of Maryland, and Eileen Abels at the College of Library and Information Services, University of Maryland.

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Our foremost thanks go to the users who were willing to participate in the study. Without them there would be no study. But, as is the custom, they remain anonymous.

PART 1: General framework and presentation of the Derived Taxonomy

1. Approach

Our approach to the study as a whole was to identify several large research libraries, in each select a few services for study, interview the users of these services following a tested questionnaire, analyze the transcripts of the interviews, and on the basis of the analysis develop and test taxonomies of value. In other words, the approach was to concentrate on observation and analysis of user-based assessments of value.

The Taxonomy was developed from "bottom up." We interviewed users in five large university research libraries; 18 services were covered, some on-site, others off-site (electronically or phone accessed services). Altogether, we interviewed 528 users, following a questionnaire with questions about reasons why they used the service on this occasion, what were the qualities of their interaction with the service, and of what value or benefits were the results. The interviews were transcribed and then analyzed to construct first an Empirical Taxonomy (ET) - incorporating the vocabulary of users responses - and then the Derived Taxonomy, which imposed a logical structure on the Empirical Taxonomy. The ET is reported in detail in the Appendix B. of the *Final Report*, which also includes instructions for encoding of ET, used in the project for a test of the scheme, and a mapping of codes in the Empirical Taxonomy to codes in the Derived Taxonomy. This *Manual* is then a follow-up for the Derived Taxonomy only.

2. Structure and attributes of the Derived Taxonomy

The Derived Taxonomy can be thought of as a faceted classification, incorporating levels as subdivisions. There are three major classes or facets: *Reasons, Interactions, and Results*, each with subclasses and specific categories. The structure of levels is as follows (where X. are letters and n are numbers in the codes):

X. General classes (facets)
X.n Subclasses
X.n.n Subclasses
X.n.n.n Specific categories

The Taxonomy has three major classes, 12 subclasses, three of which have further subclasses - there are 10 of such sub-subclasses - and 90 specific categories.

Here are some of the attributes of the taxonomy as structured:

Relations. The relations within and between different levels of the taxonomy (classes, subclasses, and categories) are based on set-member relationship, as in faceted classifications. A class X has subclasses which are its members; subclasses are sets with other subclasses or categories as members. A specific category *"Research"* belongs, with a number of other categories, to a subclass *"Task"*;

subclass *"Task"* belongs, with a number of other subclasses, to a class *"Reasons."* Because there are three top-level facets or classes (*Reasons, Interactions, Results*), and within each further sub-facets or sub-classes, this is a polyhierarchical structure. In this sense, the relations are weaker than they would be in a strictly ordered hierarchical scheme. The relation can also be thought of as a denotation-connotation relation. Specific categories denote a users response and connote the class to which it belongs. That is, selected user utterances are grouped into categories (lowest level) that denote (label) those utterances. In turn, the categories are grouped in subclasses that connote (imply) a common attribute shared by the set of categories. Finally, subclasses are grouped in classes that connote an attribute shared by the set of subclasses.

Non-Exclusivity. Top-level classes *(Reasons, Interaction, Results)* are considered mutually exclusive. However, for the rest, the structure does NOT imply mutual exclusivity between categories or between subclasses. Categories may overlap and, of course, an utterance may include several conceptually distinct parts. Thus, more than one category may be assigned to a given user utterance. These categories can come from any of the three general facets.

Open -endedness. The Taxonomy was derived from a sample of users. While the sample was large and representative of a number of library services, there could be other users and services which would call for additional specific categories of value. By necessity, any user-based taxonomy of values is not complete; it is open-ended and not of uniform depth. Additions can be anticipated and included, particularly on the level of specific categories. Furthermore, if and when this Taxonomy is applied to a different context than ours, some specific categories may be modified, or if not relevant to that context, may be omitted.

Stability. We expect, however, that in different applications and context: (i) the three general classes will remain stable; (ii) the subclasses will be relatively stable, and (iii) the greatest need for change, as this Taxonomy is adapted, will be at the level of the "leaves" of the tree, i.e. at the level of specific categories. At that level changes will almost certainly appear in further versions, particularly in adjustments to fit specific context and applications in different libraries and information services.

3. Contents of the Derived Taxonomy

The Derived Taxonomy of Value in Using Library and Information Services is presents in two exhibits. Exhibit 1. shows the overall structure at glance. We list the general classes and subclasses, without the specific categories under each. At this level we believe that the taxonomy will remain stable for most, if not all, library and information services.

Exhibit 2. shows the whole taxonomy in all its detail, i.e. we incorporate general classes, subclasses and specific categories. As mentioned, we expect that changes/modifications may occur on the level of specific categories when the Taxonomy is applied to a specific library or information service within a given context (organization, institution).

3.1 Major classes and subclasses: description

In this section we concentrate on discussion and illustration of the three major classes or facets (Class A. *Reasons*, Class B. *Interaction*. and Class C. *Results)*, and their associated subclasses as listed in Exhibit 1 .

Class A. *Reasons*. The class or facet covers the causes, motives, bases, purposes, and/or rationales underlying the use of library services. Why do users use a library service? What do users want to get from a library service? We have subdivided *Reasons* into three subclasses:

A.1 *Task or project:* activities, work, or problems with which the user is engaged that were the direct cause for using the library service. What are the users doing that prompted the use of the service? What were the users working on or wanting to work on? What problems brought them to the service? Included are tasks such as: research, bibliography compiling, class assignment, project proposal, and a host of others. Most of the times there is some tangible element in Tasks, an element that is directly reflected in the responses.

A.2 *Personal reasons:* private, individual reasons for using the library services. Most of the time they are intangible. What is the motivation of the users for using a library service, as far as knowledge or emotion is concerned? The *Personal reasons* are further subdivided into subclasses:

A.2.1 *Cognitive reasons*, related to various aspects of learning and knowledge, staying current, or orienting oneself;

A.2.2 *Affective reasons*, related to a person's own emotional feelings or desires for using the services, like relaxation, stress reduction, feeling of satisfaction;

A.2.3 *Reasons for substitute choice:* related to a personal decision to use the given library or information service instead of some other choice.

A.3 *To get an object, information or perform an activity:* Covered are reasons associated with what the users intend to request from a service or what activities they intend to engage in at the library. What do the users actually want to get from the service? What will they do in the library? This subclass is further subdivided into:

A.3.1 *Physical (tangible) objects:* Getting a book, or other item available from a library service;

A.3.2 *Intangible objects:* Getting information, facts, data; being directed to other sources of information;

A.3.3 *Perform an activity or work:* Studying, searching, browsing and other activities a user intends to perform. Includes non-library activities, such as the use a computer, if available for general use.

Class B. *Interaction*. The class covers the assessment by users of the qualities of various aspects of library services. How does a user assess or evaluate the encounters with the library in seeking and using a service? We have divided *Interaction* into four subclasses:

B.1 *Resources, services:* Covers availability, accessibility, and quality of given materials, items or services. Availability asks: Does the library have a given resource, item or service? Does it have a given book or journal and is it available for use on this occasion? Accessibility asks:

Can the service be obtained at this time? Is the book or other resource, service... there? Also included are quality aspects, such as: How current, timely, complete is a given resource or service? How much frustration is there in accessing it?

B.2 *Use of resources, services:* Covers a number of aspects connected with user experiences while using a resource or service. How convenient is it to use the service? What effort is required or how easy is it to use? What is the degree of frustration? How much effort is required to get from one service to another (e.g. from searching for and finding references to getting articles)?

B.3 *Operations and environment:* Covers aspects related to the experience of a user in relation to the working and environment of the service. Four subclasses are included:

B.3.1. *Policies, procedures:* How clear, convenient, reasonable are they?

B.3.2 *Facilities, organization:* How adequate or of what quality is space, physical layout, intellectual organization? How comfortable are the facilities?

B.3.3 *Staff performance:* How knowledgeable, helpful, efficient is the staff?

B.3.4 *Equipment performance:* Technical functioning; instructions; difficulty; user friendliness?

Class C. *Results.* The class covers users' assessment outcomes What did a user get out of the service? What did a user accomplish? Were the expectations met? How is the service related to time and money? Six subclasses are included:

C.1. *Cognitive results:* What was learned? Getting ideas? Reinforcement? Serendipity?

C.2 *Affective results:* Degree of satisfaction? Failure? Confidence? Comfort? Frustration?

C.3. *Accomplishment in relation to task(s):* Degree of contribution? Fulfilling assignment? Next step?

C.4. *Meeting expectations:* Getting obtaining what needed? Too much, too little? Uncertainty?

C.5. *Time aspects:* Saving time? Wasting? Speed of service? Sufficiency of allocated time?

C.6. *Money estimates:* Estimate of $ value obtained. Saved? Spent? Lost if service not available?

Exhibit 1.

DERIVED TAXONOMY OF VALUE
IN USING LIBRARY AND INFORMATION SERVICES

General classes or facets

A. **REASONS** for using a library or information service
- A.1 For a **TASK** or project
- A.2 For **PERSONAL** reasons
  - A.2.1 Cognitive reasons
  - A.2.2 Affective reasons
  - A.2.3 Reasons for substitute choice
- A.3 To get an **OBJECT, INFORMATION** or perform an **ACTIVITY**
  - A.3.1 Physical (tangible) objects
  - A.3.2 Intangible objects
  - A.3.3 Perform an activity or work

B. **INTERACTION** with a library service
- B.1 **RESOURCES** - availability, accessibility
- B.2 **USE** of resources, services
- B.3 **OPERATIONS and ENVIRONMENT**
  - B.3.1 Policies, procedures
  - B.3.2 Facilities, organization
  - B.3.3 Staff performance
  - B.3.4 Equipment performance

C. **RESULTS** of using a library services
- C.1 **COGNITIVE** results
- C.2 **AFFECTIVE** results
- C.3 **ACCOMPLISHMENTS** in relation to tasks
- C.4 **EXPECTATIONS** met
- C.5 **TIME** aspects
- C.6 **MONEY** estimates

Exhibit 2

DERIVED TAXONOMY OF VALUE IN USING LIBRARY AND INFORMATION SERVICES

General classes and specific categories

A. **REASONS** for using a library or information service

A.1 For a **TASK**

- A.1.1 Research
- 1.2 Dissertation/thesis
- 1.3 Project work
- 1.4 Professional and other occupational work
- 1.5 Paper, report, article - writing, starting
- 1.6 Book - writing, starting
- 1.7 Bibliography, references, citations, sources - compiling, checking
- 1.8 Class assignment, requirement for grade or degree
- 1.9 Exam, test, comprehensive
- 1.10 Teaching, instruction - preparation, gathering materials
- 1.11 Presentation, oral report
- 1.12 Proposal for grant, funding
- 1.13 Job search, job application, interview for job, employment
- 1.14 Review, assessment, appraisal, evaluation of a book, proposal, application and other objects, materials
- 1.15 Planning for some activity, work
- 1.16 Delegated work - doing it for or helping somebody else

A.2 For **PERSONAL** reasons

A.2.1 Cognitive reasons

- A.2.1.1 Learning something, confirming something
- 2.1.2 Staying current, catching up with an area, topic
- 2.1.3 Orienting oneself to the library, resources, services, equipment; learning how to use them

A.2.2 Affective reasons

- A.2.2.1 Relaxing, pleasure, recreation, leisure, curiosity
- 2.2.2 Reducing stress, worry

A.2.3 Reasons for substitute choice

- A.2.3.1 Using this library service instead of other choices - other information resources, services people

Exhibit 2 (cont.)

A. **REASONS** for using a library or information service **(cont.)**

A.3 To get an **OBJECT, INFORMATION** or perform an **ACTIVITY**

A.3.1 Physical (tangible) objects

A.3.1.1 Getting a book, periodical, article, recording, image, film, video

3.1.2 Using interlibrary loan or materials delivery service to get an item

3.1.3 Using recall to get an item

A.3.2 Intangible objects

A.3.2.1 Obtaining information, facts, data, clarify something

3.2.2 Pointing to another source(s) of information within or outside the library

A.3.3 Perform an activity or work

A.3.3.1 Studying, reading in the library

3.3.2 Viewing a film listening to a recording, using special equipment

3.3.3 Searching electronic resources - catalogs, databases

3.3.4 Searching print resources - catalogs, indexes, tables of contents

3.3.5 Browsing

3.3.6 Copying

3.3.7 Use computers for non-library task (where available as service)

3.3.8 Performing other non-library or non-information activities or work

Exhibit 2. (cont.)

B. **INTERACTION** with a library service

B.1 **RESOURCES, SERVICES**

- B.1.1 Availability of desired materials, item(s) - degree of
- 1.2 Completeness of given resource, service - degree of
- 1.3 Currency, timeliness - degree of
- 1.4 Accessibility, ability to use a given resource, service - degree of

B.2 **USE** of resources, services

- B.2.1 Convenience in using the resource or service - degree of
- 2.2 Effort required in using it; ease of use - degree of
- 2.3 Frustration in using it - degree of
- 2.4 User performance - degree of perceived ability
- 2.5 Effort in getting from one resource or service to a complementary or subsequent one - degree of

B.3 **OPERATIONS AND ENVIRONMENT**

B.3.1 Policies, procedures

- B.3.1.1 Clear - degree of
- 3.1.2 Conducive for ease, convenience, effectiveness of access, use - degree of
- 3.1.3 Requirements upon users, fairness, reasonableness - degree of

B.3.2 Facilities, organization

- B.3.2.1 Space - degree of adequacy
- 3.2.2 Physical layout, design, and organization - degree of quality
- 3.2.3 Adequacy, quality of intellectual organization of resources, materials, services - degree of
- 3.2.4 Comfort, ambience of facilities - degree of quality

B.3.3 Staff performance

- B.3.3.1 Knowledgeability, expertise - degree of
- 3.3.2 Helpfulness, empathy, sensitivity - degree of
- 3.3.3 Efficiency - degree of

B.3.4 Equipment performance

- B.3.4.1 Technical functioning - degree of
- 3.4.2 Availability and clearness of instructions, guides, documentation
- 3.4.3 User friendliness, ease of use - degree of
- 3.4.4 Difficulty in operating equipment - degree of

Exhibit 2. (cont.)

C. **RESULTS** of using a library services

C.1 **COGNITIVE** results

- C.1.1 Learning something, stretching knowledge
- 1.2 Reinforcing knowledge
- 1.3 Changing viewpoint, outlook, perspective
- 1.4 Getting ideas, perspective, conceptualization how to proceed
- 1.5 Serendipity - getting ideas about different, tangential things
- 1.6 Getting no new ideas; did not learn anything

C.2 **AFFECTIVE** results

- C.2.1 Sense of accomplishment, satisfaction, success - degree of
- 2.2 Sense of failure - degree of
- 2.3 Sense of confidence, reliability - degree of
- 2.4 Sense of comfort, good feeling, happiness - degree of
- 2.5 Sense of frustration, stress - degree of

C.3 **ACCOMPLISHMENTS** in relation to task(s)

- C.3.1 Contribution to accomplishing or proceeding with task at hand; facilitation of or help with work; - degree of
- 3.2 Fulfilling assignment - degree of
- 3.3 Providing access to people or other sources of information
- 3.4 Providing for a next step, task, information seeking activity - degree of

C.4 Meeting **EXPECTATIONS**

- C.4.1 Getting, obtaining what needed, sought, expected or requested - degree of
- 4.2 Getting too much
- 4.3 Getting nothing
- 4.4 Confidence in sources or certain about what gotten - degree of
- 4.5 Exceeding expectations, getting additions to what expected
- 4.6 If not gotten what expected, degree of hurt; seeking of substitute action

C.5 **TIME** aspects

- C.5.1 Saving time as a result of using the service - amount, comparison
- 5.2 Wasting, losing time in using the service - amount, comparison
- 5.3 Waiting time to access the service - amount
- 5.4 Speed, quickness of service - comparison
- 5.5 Time it takes to figure out or use the service - amount
- 5.6 Time available or allocated for use of the service - degree of sufficiency

C.6 **MONEY** estimates

- C.6.1 Estimate of a dollar value of results obtained from a given service, or of information obtained
- 6.2 Estimate of the amount of money saved because of use of the service
- 6.3 Estimate of the cost (dollar value spent) in using the service, or the actual amount spent
- 6.4 Estimate of what may be spent on a substitute service or activity for similar results
- 6.5 Estimate of dollar value lost in cases where service was not available or the use was not successful

PART 2: Rules and examples for encoding

This Part is divided in five sections. First three sections follow the major classes in the Derived Taxonomy, *Reasons*, *Interaction*, and *Results*. Each sections is further subdivided into appropriate subcategories. Under each subcategory specific codes are listed. The rules and examples are given at this level. Examples are taken verbatim from interviews with users. Section 4 provides general rules and helpful hints for use in encoding of similar texts. Section 5 contains some general suggestions for conducting similar studies.

1. Class A. Reasons for using a library or information service

A.1 For a task or project

A.1.1 Research

RULE: Look for the word research, researching etc. verbatim.

EXAMPLES: ...doing research for a project
...doing a research paper for my class
I'm researching the individuals.

A.1.2 Dissertation/thesis

RULE: Look for words dissertation or thesis.

EXPL: I am working on my dissertation.
...during early dissertation research

A.1.3 Project work

RULE: Look for the word project and types of projects that do not fit in any other category.

EXPL: ...doing a case study
...marketing project
It's my junior independent work.

A.1.4 Professional and other occupational work

RULE: Work that relates to a person's occupation.

EXPL: I was using it for a job I have.
I work with similar products and I like to see what the competition is.
It was to further our education on patient care.

A.1.5 Paper, report, article - writing, starting

RULE: Look for word paper or report or other types of written material such as essays, judicial decisions, case study, etc. Also the act of producing a written document such as writing, doing, starting.

EXPL: ...writing a case study
...do a report on Nathaniel Hawthorne's
Get journal articles and references to cite in my paper.

A.1.6 Book - writing, starting

RULE: Look for word book.

EXPL: Today is a book contract.
I am writing a book.

A.1.7 Bibliography, references, citations, sources - compiling, checking.

RULE: Look for words bibliography, bibliographic, citation, references, sources etc.

EXPL: ...doing footnote research, getting all my bibliographic information
Trying to get a reference to a particular paper that I couldn't remember.
I got a short list of possible sources for my paper.

A.1.8 Class assignment, requirement for grade or degree

RULE: Look for words such as class, assignment, course or implied assignments that students do to meet the requirements for a grade or degree such as field study, independent study, etc.

EXPL: ...that we're doing in school...it's 40% of our grade
I'm taking this class called Public Policy.
It's an assignment for a class.

A.1.9 Exam, test, comprehensive

RULE: Look for words such as test, exam, midterm, generals, comprehensives, etc.

EXPL: I'm studying for generals, my master's exam.
I'm having a midterm tomorrow and he is one of the people we have to know about.

A.1.1.0 Teaching, instruction - preparation, gathering materials

RULE: Preparation for teaching or instructing a class.

EXPL: ...research for a class that I am teaching
Confirming that there were materials for students to find.

A.1.1.1 Presentation, oral report

RULE: Look for word presentation. If it involves teaching use A.1.1.0.

EXPL: I am giving a class presentation on this topic.
..it is for a five minute presentation

A.1.1.2 Proposal for grant, funding

RULE: Look for words proposal or grant.

EXPL: It's for a grant. Just information to gather for the grant.
I have to write a research grant on conducting...
I am doing a research proposal for my social work research class.

A.1.1.3 Job search, job application, interview for job, employment

RULE: Should deal with some aspect of obtaining employment.

EXPL: Looking for MLA job listings.
I was trying to find information on a company that I am interviewing with.

A.1.1.4 Review, assessment, appraisal, evaluation of a book, proposal, application or other objects, materials

RULE: The act of assessing or reviewing something such as a book, proposal, application, etc.

EXPL: I have been asked by a group to review some applications.

A.1.1.5 Planning for some activity, work

RULE: Word planning or implied planning.

EXPL: ...planning for a new experiment
Saw patents on similar designs that I was considering.
I wanted to see his views before I write him.

A.1.1.6 Delegated work - doing it for or helping somebody else

RULE: Doing it for or helping someone else such as a professor, colleague, friend, etc.

EXPL: Actually the project is for my son who is 13 years old.
My professor asked me to try to locate...

A.2 For personal reasons

A.2.1 Cognitive reasons

A.2.1.1 Learning something, confirming something

RULE: Describing a concept for learning or confirming something. Look for phrases such as "trying to find out", "help understand", "wanted to see", "making sure", "needed to find", "clear my mind", "to know about".

EXPL: I'm interested in learning about Menieres disease.
I needed to find something I didn't know.
I wanted to have something which can clear my mind about it's activities...
...so I can draw some generalizations about that kind of information

A.2.1.2 Staying current, catching up with an area, topic

RULE: Phrases used such as "keep abreast", "up to date", "latest", "refresh my memory", etc.

EXPL: Need to see what state-of-the-art was.
I have to keep up with the latest for my topic.
...to refresh my memory on control theory

A.2.1.3 Orienting oneself as to the library, resources, services, equipment; learning how to use them

RULE: Use when there appears to be a need to find out about a service in the library or how

to use a service in the library.

EXPL: I have no clue where anything is.
I didn't know where to get that information.
...more details as to exactly how the service, the computer work station works

A.2.2 Affective reasons

A.2.2.1 Relaxing, pleasure, recreation, leisure, curiosity

RULE: Look for words or implied relaxation, pleasure or recreation.

EXPL: I wanted to relax so I put on music and started to listen.

A.2.2.2 Reducing stress, worry

RULE: Look for words such as stress, worry, concern and that using the service will help reduce this.

EXPL: I was able to confirm...
... that I was particularly worried about

A.2.3 Reasons for substitute choice

A.2.3.1 Using this service instead of other choices

RULE: The person is choosing to use one service instead of another.

EXPL: I usually try to circumvent the books.
I figure I can get the tapes...count on these people to know.
...pain in the neck to look through all the aisles
...by keywords get documents instead of looking through books and stuff.

A.3 To get an object, information or perform an activity

A.3.1 Physical (tangible) objects

A.3.1.1 Getting a book, periodical, article, recording, image, film, video

RULE: Getting, looking for, or finding a physical object such as book, periodical, article, references, sources, listings, printouts, abstracts, citations, reviews, publications, etc.

EXPL: I am trying to collect references to find journal articles.
...trying to look up some references.
...look for reviews on two general authors.
I got some books and stuff.

A.3.1.2 Using interlibrary loan or materials delivery service to get an item

RULE: Reason for coming is to use ILL (external loan) or Material Delivery (internal loan).

EXPL: ...needed to get some stuff from ILL
...and so I could ask for a book from another library
...asked for an external loan

A.3.1.3 Using recall to get an item

RULE: User indicates that they used recall to get an item.

EXPL: The book was checked out so the librarian used recall to get me the item.

A.3.2 Intangible items

A.3.2.1 Obtaining information, facts, data; clarify something

RULE: Look for obtaining, identifying, looking up, finding, etc. information, facts, data, etc. If subject or topic is the only reason mentioned then use this code.

EXPL: I was looking for the common name and the scientific name for some pests.
It's economic history research at Newark and textile industry.
I wanted some information on the company.

A.3.2.2 Pointing to another source(s) of information within or outside the library

RULE: Obtaining an object or information that is used to find another object or piece of information.

EXPL: ...find book to get address off cover jacket
...went on MLA Bibliography and I got referred to a book

A.3.3 Perform an activity or work

A.3.3.1 Studying, reading in library

RULE: Use the library for other purposes that cannot be coded else where such as studying, reading, borrowing or using books that must remain in the library.

EXPL: My study carrel is in the library.
...I have come here to do the reading for the week

A.3.3.2 Viewing a film, listening to a recording, using special equipment

RULE: Using special equipment to access other types of media such as viewing a film or video, listening to a recording.

EXPL: I put on music and started to listen.
I was watching a film.

A.3.3.3 Searching electronic resources - catalogs, databases

RULE: Reason is to use electron resources; on-line catalogs or databases. Databases used may be mentioned as well as electronic searching terminology.

EXPL: I used Philosophy Index to try and keyword search on name.
I downloaded off of the Dow Jones News.

A.3.3.4 Searching print resources - catalogs, indexes, table of contents

RULE: Reason is to use printed resources, catalogs, indexes, etc. Print source used may be mentioned as well as manual searching terminology.

EXPL: I manually searched the last four or five weeks of patent gazettes.

I manually scanned certain sections that are relevant to my interests.

A.3.3.5 Browsing

RULE: Look for words such as browsing, browse.

EXPL: Today I was browsing.

A.3.3.6 Copying

RULE: Verbatim words copy, photocopy, Xerox. Implies use of a copy machine.

EXPL: ...to make copies of patents...to submit as part of the patent application.
I was photocopying from several reference books.

A.3.3.7 Use computers for non-library tasks (where available as service)

RULE: To use computers in the library that are specifically available for people to use for tasks such as word processing.

EXPL: I need to use the computer..to write a paper..word processing.
...because I came to type something up

A.3.3.7 Performing other non-library or non-information activities or work

RULE: Reason for using library is for non-library activities.

EXPL: I have a class here.
I've been writing two letters of recommendation.
I was really talking to my teacher about an assignment.

2. Class B. Interaction with a library service

B.1 Resources, services

B.1.1 Availability of desired materials, item(s) - degree of

RULE: Response concerns the actual items that the library possesses, owns, or has available.

EXPL: The books were not available, not owned by [library].
Books were on reserve and they're available.

B.1.2 Completeness of given resource , service - degree of

RULE: Response concerns the comprehensiveness, completeness, breath and depth of the library resources or services.

EXPL: ...thousands and thousands of journal articles in whatever area you're looking at
Dow Jones is the most complete authority on stock prices.
There is an awful lot of stuff inside the references services databases but I have found...occasionally there are items missing.

B.1.3 Currency, timeliness - degree of

RULE: Response concerns the time period covered by resources and may be described as recent, newer, out-of-date, current, daily.

EXPL: Some of the newer stuff isn't available.
I think the program I was using is very up-to-date.
Lexis has all the years.

B.1.4 Accessibility, ability to use a given resource, service - degree of

RULE: Response concerns the ability to get to use or access a resource.

EXPL: I waited two hours and was unable to have access to viewing the tape...they did not have enough machines.
We got the journal but it was just at the bindery.

B.2 Use of resources, services

B.2.1 Convenience in using the resource or service - degree of

RULE: Look for word convenience, convenient, or implied convenience such as "do from home", "do at one's leisure", etc.

EXPL: It's convenient because I have a carrel and I can have my books there.
It's [electronic service] enormously convenient.
Well the fact that I could access it at home...you can do it at your leisure.

B.2.2 Effort required in using it; ease of use - degree of

RULE: Look for word easy or phrases that express a degree of ease in using a system. These systems can be electronic sources, card catalog, reference book, reference services, etc.

EXPL: It was easy for me to just say "I need these two newspapers..." and I got them [reference service].
It's too complicated [reference service].
It wasn't terribly difficult [electronic sources].

B.2.3 Frustration in using it - degree of

RULE: Look for the words such as frustration, hassle, etc.

EXPL: I got what I needed with minimal hassle.
I have a hard time finding things that are supposed to be here...That's my main frustration.

B.2.4 User performance - degree of perceived ability

RULE: Response concerns the perceived ability to use a system or resource.

EXPL: I couldn't figure out how to use the machine.
It was my fault, I didn't remember the specific ways to search for things.
I don't know if I used it wrong or what.

B.2.5 Effort in getting from one resource or service to a complementary or subsequent one - degree of

RULE: Response concerns the effort in using one or more resources to direct the user to other resources. More than one resource may be mentioned as well as the process associated with using the resources.

EXPL: I got an awful lot of information from this [electronic resource] but I am still going to have to go somewhere else for the papers.
I got four or five very useful citations...I will now look up in the microfilm.

B.3 Operations and environment

B.3.1 Policies, procedures

B.3.1.1 Clear - degree of

RULE: Response concerns clarity of policies or procedures.

EXPL: There's well-defined policies or procedures about you do that, how you put on reserve and take off.
...annex decided it was not going to be checked out

B.3.1.2 Conducive for ease, convenience, effectiveness of access, use - degree of

RULE: Response concerns the ease or difficulty the user has complying with the policies or procedures.

EXPL: It wasn't a very complicated procedure.
They're very fussy about what you photocopy...It can hamper one's research because it means you have to be here all the time.
As I was watching this wonderful film and it was four hours long and they closed. I had to go home, come back the next day to see what happened to Robert DeNiro.

B.3.1.3 Requirements upon users, fairness, reasonableness - degree of

RULE: Response concerns user's perceptions of the fairness or reasonableness of the policies or procedures.

EXPL: I wish I could control...when I was watching videos.
Certain restrictions like you can't have food or drink in library...not ideal.
You can't leave the library with them because the whole class needs them.

B.3.2 Facilities, organization

B.3.2.1 Space - degree of adequacy

RULE: Response concerns the physical size of the facilities.

EXPL: It's a space concern. The library's too small.

The rooms are up to date so you have more room and you have big classes.

B.3.2.2 Physical layout, design, and organization - degree of quality

RULE: Response concerns the design of the library or the physical organization of the resources.

EXPL: ...material organized according to different sizes
Books are split between two libraries on campus.

B.3.2.3 Adequacy, quality of intellectual organization of resources, materials, services - degree of

RULE: Response concerns categorization, classification or organization of materials, resources, and other services found in the library.

EXPL: ...because the way in which these things are cataloged is obtuse...I mean they are categorized in different...under a lot of different codings. [electronic source]
..I can't find here, I have to go to [another library] for, or things will be organized sort of difficulty, and I'll have to poke around

B.3.2.4 Comfort ambience of facilities - degree of quality

RULE: Response concerns user's reaction to the physical environment or ambience of the facilities.

EXPL: The facilities are exceptional. I'm comfortable here.
It would be nice to have more diverse study areas...some couches or something to sit on rather than these chairs.

B.3.3 Staff performance

B.3.3.1 Knowledgeability, expertise - degree of

RULE: Response concerns knowledge, skills, subject specialization, or training of the staff.

EXPL: Because the people who work here do not seem to know how the computer operates.
They are very specialized. I can come here and ask them specific questions.

B.3.3.2 Helpfulness, empathy, sensitivity - degree of

RULE: Response concerns the staffs' helpfulness and sensitivity to the user's need.

EXPL: She took the time to call another library.
They are helpful. They explain to you. They have patience.

B.3.3.3 Efficiency - degree of

RULE: Response concerns how the staff reacts to the user's need. Look for words such as efficient, quick, slow, logical, or implied efficiency.

EXPL: Because she did it very quickly, very understanding, very logically...she was efficient.
They know their way around the library extremely well.

B.3.4 Equipment performance

B.3.4.1 Technical functioning - degree of

RULE: Response concerns the actual function of the equipment including system response time.

EXPL: It seems like it doesn't work all of the time.
The system sometimes breaks down.
The machine kept printing and it double printed everything.
I used Lexis, it worked very slowly.

B.3.4.2 Availability and clearness of instructions, guides, documentation

RULE: Response concerns on-line and print instructions, guides, or documentation.

EXPL: ...not having much direction from the text that was in there on what to do
The directions on the system aren't very clear.

B.3.4.3 User friendliness, ease of use - degree of

RULE: Response concerns the degree of user friendliness, or ease of understanding how to use the equipment.

EXPL: It's [electronic service] kind of easy to use.
...a little more user-friendliness in the sense of simply saying enter
...it's a perfect example of that user unfriendly process as far as trying to dump the information

B.3.4.4 Difficulty in operations - degree of

RULE: Response concerns the user's problems with operating or running the equipment. It does not include problems with how the software functions (B.2.2 or B.2.3) and system response time (B.3.4.1).

EXPL: I couldn't figure out how to use the machine.
I knew there's a way to put a disk in and for me not to write it down...computer ignorance.
The difficulty was mechanical...the printer.

3. Class C. Results of using a library services

C.1 Cognitive results

C.1.1 Learning something, stretching knowledge

RULE: Response indicates that the user learned something or increased knowledge in an area. Look for words or phrases such as "got the answer", "now know", "taught me", "I found [a piece of information]", "discovered", "greater knowledge", "learned", understand, etc.

EXPL: It gives you a greater breadth of knowledge.

...it helped me to answer a couple of questions for me
We determined who the author was and who the character of the book was.
I learned to use some of the references.

C.1.2 Reinforcing knowledge

RULE: Response indicates that the results obtained reinforced the user's knowledge. Look for words such as solidified, complemented, validated, confirmed, supplement, supported, reinforced, backed up, etc. when describing the results obtained from the interaction with the library service.

EXPL: I was able to use it to supplement the facts I already had.
It reinforced readings that I also had.
It complimented the information I already had.
It just confirmed some guesses.

C.1.3 Changing viewpoint, outlook, perspective.

RULE: Response indicates that the results of the interaction caused the user to change their viewpoint, outlook, perspective.

EXPL: It made me realize that I shouldn't go into this project at that stage.
I ended up changing my ideas about what I was going to do.
...I had to take a different approach for my paper
They [information desk]...helped to steer me into another direction.

C.1.4 Getting ideas, perspective conceptualization how to proceed

RULE: Response indicates that the user got ideas, perspective, direction, etc. from the interaction. Look for words and phrases such as "point of reference", "formulate", "develop", "pinpoint", "idea of what", "insight", "more direction", "basis", "moved me along", "helps me understand", etc.

EXPL: That moved me along in my reading and thinking.
It gave me a pretty good basis for my research.
It gave me more direction about exactly what area to narrow down my research.
It [library] helped me to more fully develop my ideas.
...an insight into what people thought of

C.1.5 Serendipity - getting ideas about different, tangential things

RULE: Response indicates that the user made an unexpected discovery or the information obtained was related or peripheral to what the user expected to get.

EXPL: I found something similar to it but not the same.
I found some stuff on it but not really what I was looking for.
There are so many sources to use inside the [electronic services]...it made me look into other things that I wasn't even thinking about using.

C.1.6 Getting no new ideas; did not learn anything

RULE: Response indicates that the user did not get any cognitive results from the interaction

with the library service. No new ideas were obtained and nothing new was learned.

EXPL: I have not found a lead.
It didn't have any kind of impact at all.
I did not achieve any further discoveries

C.2 Affective results

C.2.1 Sense of accomplishment, satisfaction, success - degree of

RULE: Response indicates that the results of the interaction with the library caused a sense of satisfaction or accomplishment in the user's ability.

EXPL: I walk out having satisfactorily completed what I came here to do.
It worked! I mean I found the book. It was on the system.
Because what I was seeking I got and I was satisfied.

C.2.2 Sense of failure - degree of

RULE: Response indicates that the results of the interaction with the library caused a sense of failure or disappointment in the user's ability.

EXPL: I didn't get as much information as I thought I would.
I wasn't really successful in finding information either.
Maybe I could have gotten..slogged through it some more and found the answer and I just didn't.

C.2.3 Sense of confidence, reliability, trust - degree of

RULE: Response indicates that the results of the interaction with the library service caused an increase or decrease in confidence or certainty in the user's ability to obtain information. If the confidence is in the sources themselves then use C.4.4.

EXPL: I'm never quite sure if I'm getting the right thing or the wrong thing.
I think it's the lack of confidence in my own abilities.

C.2.4 Sense of comfort, good feeling, happiness - degree of

RULE: Response indicates that the results of the interaction with the library service caused a sense of comfort, happiness, or good feeling. Look for words such as happy, delighted, fun, wonderful, like, at ease, enjoy, comfortable, etc.

EXPL: It was the first I used it and I felt fairly comfortable.
I am sure I can find absolutely everything I need and I can relax.
It is a lot more fun playing with the computer than...with a book.

C.2.5 Sense of frustration, stress - degree of

RULE: Response indicates that the results of the interaction with the library service caused an increase or decrease in frustration or stress for the user.

EXPL: It's a little bit frustrating but I know it's not difficult.
...quicker information retrieval...reduces my stress level

C.3 Accomplishments in relation to task(s)

C.3.1 Contribution to accomplishing or proceeding with task at hand; facilitation of or help with work; - degree of

RULE: Response indicates that the interaction did or did not help the user proceed with a specific task. Look for words such as proceed, helpful, accomplish, etc. in relation to a task.

EXPL: I essentially got enough information to start and probably finish a literature search.
For the project itself it hasn't been very helpful.

C.3.2 Fulfilling assignment - degree of

RULE: Response indicates that the results of the interaction affected the user's completing or fulfilling the task or assignment.

EXPL: If I didn't have that, about 3/4 of my paper would not have been done.
I was able to complete the assignment.
It was invaluable. It [library] was necessary to write a thesis.

C.3.3 Providing access to people or other sources of information

RULE: Response indicates that the results of the interaction led the user to people or other sources of information ending their information seeking activity.

EXPL: It will give me names and address of people that I can call or write to find information on the topic.
Psych Lit [database] provides the basis for finding other materials.
I got the abstracts and citations so that I can then go and then get the articles.

C.3.4 Providing for next step, task, information seeking activity - degree of

RULE: Response indicates that the results of the interaction led to the next step or continuation of the user's information gathering or seeking activity.

EXPL: It [electronic service] helped me get some background information...that I subsequential used to get more references.
It give me good references and from there I can take the references in the articles and find more.
This librarian pointed me in the direction of this and gave me a couple of other suggestions what to do next to get article information.

C.4 Meeting expectations

C.4.1 Getting, obtaining what needed, sought, expected or requested - degree of

RULE: Response indicates that the user did or did not get what was needed, expected or requested.

EXPL: I didn't find everything I wanted to find.
I found a couple of things that I needed.
I found some stuff on it but not really what I was looking for.

I got what I cam here for. I got results.

C.4.2 Getting too much

RULE: Response indicates that the user got too much information from the interaction. Getting too much information would be a negative result. If getting too much is a positive result use C.4.5.

EXPL: I had too many references from which to select.
I got a number of citations which I didn't download onto disk because there's too many.
...I had to wade through a lot of information to get the one that I needed
It was just too great. It was over 1000.

C.4.3 Getting nothing

RULE: Response indicates that the user did not get anything that was needed, expected or requested from the interaction with the library service.

EXPL: ...was not able to find anything. These books never seem to be reviewed.
I didn't find it. The paper may have either been too old or just not in the database.
I was looking for information on a particular topic and there was none.
Not very much. I didn't get a listing really of journals or articles that I needed.

C.4.4 Confidence in sources or certain about what gotten - degree of

RULE: Response indicates whether or not the user is confident in what he/she has gotten. Reasons can include past use, authority of the sources, resources' reliability, or personal confidence.

EXPL: I don't know yet. I have to analyze the data.
...Because they are journal articles and they are bona fide sources of information.
...I have used it before and it has helped a lot for papers.
Just, not knowing basically.

C.4.5 Exceeding expectations, getting additions to what expected

RULE: Response indicates that the user got more than what was expected.

EXPL: My initial search of this found a lot more than I thought I would have.
I found a book that is a lot more extensive than I thought I would find.
I got a list of articles that I didn't get any other place.

C.4.6 If not gotten what expected, degree of hurt; seeking of substitute action

RULE: Response indicates that the user did not get what was expected, needed or requested and is going to do something else to obtain the information. The substitute action or the need to perform another action will be mentioned.

EXPL: I didn't get the answer I wanted...I've got to go look somewhere else for the information.
Probably I have to go back to the annual report and flip through each page again.
I was unsuccessful on the first terminal so I have to go to a terminal where the Dow

Jones service is loaded.

C.5 Time aspects

Use C.5 if time in general is discussed, for example "Time is value."

C.5.1 Saving time as a result of using the service - amount, comparison

RULE: Response concerns the user saving time because of using the service or the concept of saving time.

EXPL: ...look at each journal. That would have taken so much time...would have to start on this project in September.
I saved a lot of time.
...If I didn't have [electronic service]...go personally into the library...that would have taken so much time.

C.5.2 Wasting, losing time in using the service - amount, comparison

RULE: Response concerns wasting, losing, or taking more time by using the service or the concept of wasting time.

EXPL: ...and slowed me down.
I probably wasted an afternoon I suppose [using electronic service].
...it means that I will not try and waste my time.

C.5.3 Waiting time to access the service - amount

RULE: Response concerns the amount of time the user waited to use or access a service.

EXPL: I mean I didn't have to wait which was nice because I usually have to wait.
It's just that I lost several hours of my time waiting to have access to it [service].

C.5.4 Speed, quickness of service - comparison

RULE: Response concerns the speed of the service. Look for words such as quick, slow, fast, etc. or he mention of periods of time such as days, months, hours, etc.

EXPL: It took 17 days just to be mailed across the street.
It's just fast.
I got 70 articles in about 5 minutes.

C.5.5 Time it takes to figure out or use the service - amount

RULE: Response concerns the time it takes the user to figure out or use the service.

EXPL: ...I need a little more time to try to use the reference
It takes a lot of time just trying to get through the system.
...invest a lot of time down there to find the articles and use the machine

C.5.6 Time available or allocated for use of the service - degree of sufficiency

RULE: Response concerns the amount of time allowed or allocated to use the equipment or service including the user's own time constraints.

EXPL: Because there was a time limit [using an automated reference system].

My own time, I only had so much time to look today.

C.6 Money estimates

C.6.1 Estimate of dollar value of results obtained from a given service, or of information obtained

RULE: Response concerns the dollar value of the information obtained.

EXPL: The information was invaluable. It helped me obtain the grant money.

C.6.2 Estimate of amount of money saved because of use of the service

RULE: Response concerns the concept of saving or spending money by using the service.

EXPL: It helped me save money.

By doing the search ourselves, we found that the name was already being used and that saved us from making a costly error. [using patent service]

NY Public is one of the closer libraries that would have ABI at no fee.

I wouldn't mind even if people charged me 50 cents...because I don't want them to take it [MDS] out.

C.6.3 Estimate of the cost (dollar value spent) in using the service, or the actual amount spent

RULE: Response concerns the amount or estimate of amount of money spent in using the service.

EXPL: I spent a lot of money Xeroxing the articles....

C.6.4 Estimate of what may be spent on a substitute service or activity for similar results

RULE: Response concerns the concept of spending or saving money on a substitute service when service is not available in the library or using another service is not successful.

EXPL: We would have had to spend a substantial amount on retaining counsel to do the search.

I would have to pay for somebody else to do it, because I couldn't.

I could have contacted Dow Jones directly...but it would have been a lot more expensive.

C.6.5 Estimate of dollar value lost in cases where service was not available or the use was not successful

RULE: Response concerns money that was spent when not have service available or not successful.

EXPL: I was unable to download the full text. Now I have to photocopy it and that costs money.

The magazine was not available. I will have to go to the store and buy it.

4. General rules and considerations for encoding

As we developed this manual and encoded user responses, some general considerations and rules were followed to help the results be more consistent. These suggestions and observations may help those who are encoding responses from similar texts and interviews, or considering devising rules before encoding.

- It was helpful to read through each answer before encoding the response. Sometimes the true answer was found at the end of the response. It also helped to read the response more than once before choosing a code. If there is a limit to the number of codes per response, rules may be needed for determining the most important concepts such as; if only three codes are allowed consider taking one code from each broad category (A, B, C) first. Other rules could be based on individual questions. Broad categories could take precedent. For example, the question "Why did you use the [service] today?" would focus on category "A", reasons for using a library or information service.

- Sometimes the respondent would put two concepts together such as "research paper". This response could be have one or two specific codes. How to encode this should be determined when designing a study. Both A.1.1 (research) and A.1.5 (paper) are concepts mentioned. One or both can be coded based on the number of codes allowed per response or which, if any, is deemed more important.

- When encoding responses it was important not to "read between the lines" or search for implied concepts.

- It was helpful to look for key words or phrases. Many of these are incorporated in the manual but this is not an exhaustive list.

- Sometimes the person being interviewed would digress or supply unrelated information. We tried to find the part of the response that applied to the question.

- If a specific code at the lowest level did not exist, we used the code at the next higher general level. For example: "Time is value." presents the concept of time but does not fit in any of the lower level categories. C.5 (Time aspects), the higher general level, was used.

- At times a response did not fit into any appropriate category. A code "NC" was used instead of trying to fit a response into a category based on assumptions.

5. General suggestions

The codes have been designed to be as generic as possible for the broad application in a variety of

settings. There are several suggestions to help avoid some problems encountered in this project: designing the surveys, interviewing considerations, and using the codes. Possible solutions are proposed to help others avoid the same pitfalls.

First, in designing the surveys, questions from the report or new ones may be created to probe reasons, interactions with the institution, and/or personal outcomes. Appropriate, clear questions provoke direct answers, simplifying the coding process. Also, statistical packages to analyze the data determine the number of codes per question to use. In this study, a maximum of three codes per answer generated some problems when people gave responses containing more than the permissible amount. Increasing the number of codes could minimize this problem.

Second, the quality of the training of interviewers influences the answers and the ease of coding. The interviewer guides the questioning process by bringing the person back to the problem, when digressions take place. It is helpful if the interviewer recognizes fully answered questions and doesn't continue to probe. This creates additional information that may not be relevant or may be repetitive. Open ended, unbiased questions provide opportunities for the user to elaborate and expand answers. The coding process becomes more productive. Training of the interviewers is very important for producing quality answers.

Third, there is a great deal of flexibility with using the codes. The surveys may target only one section of the taxonomy, such as the reasons for coming to the library and use of the A codes, simplifying the process. Two areas of the taxonomy may be used or all three. The larger the portion of the taxonomy used, the greater the chance of overlap between the codes used in the answers. This makes it more difficult to determine the application of codes at times. Restricting the multiple uses of codes within the same area in the taxonomy circumvents this problem, i.e., only one A, B, or C code can be used at one time. The process of assigning codes derived from the answers in the survey is a very labor intensive and time consuming activity, and introduces the possibility of the analysts' misinterpretation of the answers. If the person being interviewed selects the codes to answer the questions instead, then all of these problems are bypassed. This would save a tremendous amount of time and may be more accurate by eliminating the analysts' interpretations of the users' answers. A code, NC (not coded) is suggested to solve problems when people refuse to answer some of the questions, or the answer is difficult to discern.

In conclusion, designing the survey, training interviewers, and using the codes are important considerations when using this manual for this type of survey. There is a great amount of flexibility in the usage of the codes to provide for broadest possible applications in a variety of settings. Research efforts continue to explore the usage and applicability of these codes contained in this manual.